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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,442	01/27/2004	Joseph Bobier	P031696-08UT	1543
26376	7590	08/12/2005	EXAMINER	
DENNIS L. COOK, ESQ. THE LAW OFFICES OF DENNIS L COOK PLLC 12718 DUPONT CIRCLE TAMPA, FL 33626			BOCURE, TESFALDET	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/765,442

Applicant(s)

BOBIER ET AL.

Examiner

Teshfaldet Bocure

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,3 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishii (US patent number 5,789,991).

Ishii teaches a transmission system having a transmitter (fig.3) and receiver (figs 6-9 and 11-13), wherein the transmitter comprising: a carrier frequency generator (see OSC in fig. 3 as in claim 5) for generating carrier wavelets each defined by 360 degrees and each cycle having zero crossing with zero energy at each zero crossing (see each of the sine waves modulated by the binary signals in fig. 5); and modulating the carrier frequency according to the information signal to be transmitted, and each of the carrier modulated with the 0's and 1's having a corresponding high and low frequency carrier, claimed altered and not altered respectively (see for example col. 1, lines 10-37) as in claims 1,3,5,9 and 12; and transmitting (claimed broadcasting in claim 3) the frequency shift keying modulated signal as in claims 1,3 and 5.

The claimed integer cycle in claim 3 includes whole number of cycles and reads on the modulated carriers in figure 5. Wherein the carrier frequency modulated with the binary values and shown in figure 5 have a non zero integer number of frequency starting at zero crossing and ending at zero crossing (see for example one of the frequency in fig.

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5 having two or three duty cycles and starting at zero crossing and ending at zero-crossing). It should also be noted that any carrier frequency to be modulated with the information signal, whether digital or analog information, is represented by a sinusoidal frequency/ies having a corresponding 100 percent duty cycle ( $360^0$ ) starting at zero energy level and ending at zero energy level.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claims 2,4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii (US patent number 5,789,991) in view of Soh (Patent Application Publication US 2002/0196865).

Ishii teaches the claimed subject matter in claim 1 as indicated above.

Further, Ishii also teaches that the FSK modulated carriers are modulated for further band limiting the carriers (see BPF in fig.3).

What Ishii fails to teach is that the filtering device, BPF, for reducing any of the harmonics associated with the carrier frequency (claimed wavelets altered).

Soh for the same endeavor the instant application and that of Ishii teaches a transmitter for transmitting a frequency shift modulated signal using a single cycle for every bit (figures 2 and 3) having a waveform shaping circuit for shaping the harmonic of the lower frequency square waveforms as in claims 2,4 and 6.

Therefore, it would have been obvious to one of an ordinary skill in the art to shape the lower harmonic of the carrier frequency so that the distortion associated with lower harmonic can be eliminated at the time the invention was made.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 7-11 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishi Ishii (US patent number 5,789,991) in view of Reichman et al. (US Patent number 6,240,073) and Soh (Patent Application Publication US 2002/0196865).

Ishii teaches a transmission system having a transmitter (fig.3) and receiver (figs 6-9 and 11-13) wherein the transmitter comprising: a carrier frequency generator (see OSC in fig. 3 as in claim 5) for generating carrier wavelets each defined by 360 degrees and each cycle having zero crossing with zero energy at each zero crossing (see each of the sine waves modulated by the binary signals in fig. 5); and modulating the carrier frequency according to the information signal to be transmitted, and each of the carrier modulated with the 0's and 1's having a corresponding high and low frequency carrier, claimed altered and not altered respectively (see for example col. 1, lines 10-37) as in claims 1,3,5,9 and 12; and transmitting (claimed broadcasting) the frequency shift keying modulated signal as in claims,9 and 12.

The claimed integer cycle in claims 9 and 12 includes whole number of cycles and reads on the modulated carriers in figure 5.

Further to claims 9 and 12, Ishii also teaches that the receiver (see figures 11 and 12) for receiving the transmitted RF signal and reconstructing the original information.

Further to claim

However he fails to teach that:

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the received FSK signal is down converted to IF signal as in claims 9 and 12; and that the broadcasted signal being TDMA and FDMA as in claims 7,8,10,11,16 and 17.

Reichman for the same endeavor as the instant application and that of Ishii, teaches a transmission system capable of transmitting and receiving TDMA and FDMA signal using an FSK modulation (see col. Lines –68), where in the receiver receiving the transmitted RF signal and down convert the signal to Intermediate Frequency (see front end down converter 224 in fig. 10).

Therefore, it would have been obvious to one of an ordinary skill in the art to use the down converter of Reichman in the receiver of Ishii to down convert the RF transmitted signal of Ishii to IF and broadcast the FSK modulated signals using TDMA or FDMA at the time the invention was made.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishi Ishii (US patent number 5,789,991) in view of Reichman et al. (US Patent number 6,240,073) and .

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Ishii and Reichman teach the claimed subject matter in claim 12 as indicated above with respect to art rejection of claim 12.

Further, Ishii also teaches that the FSK modulated carriers are modulated for further band limiting the carriers (see BPF in fig.3).

What Ishii and Reichman fail to teach is that the filtering device, BPF, for reducing any of the harmonics associated with the carrier frequency (claimed wavelets altered).

Soh for the same endeavor the instant application and that of Ishii teaches a transmitter for transmitting a frequency shift modulated signal using a single cycle for every bit (figures 2 and 3) having a waveform shaping circuit for shaping the harmonic of the lower frequency square waveforms as in claims 13 and 14.

Therefore, it would have been obvious to one of an ordinary skill in the art to shape the lower harmonic of the carrier frequency so that the distortion associated with lower harmonic can be eliminated at the time the invention was made.

### ***Response to Amendment***

8. In response to Applicant's argument that::

As discussed in detail above Applicant respectfully disagrees with the Examiner's finding that Ishii in view of Soh and the other cited patents anticipates or makes obvious Applicant's invention to someone skilled in the art.

The Examiner has discussed only some elements of some embodiments of the rejected claims and has completely ignored the true novelty of the invention. The novelty is based in the fact that the invention is an RF signal and method of constructing such signal by changing the frequency of a non-zero positive integer number of complete discrete wavelets that start at zero crossing and end at zero crossing resulting in the ability to



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greatly increase the transmission of data and greatly decrease the bandwidth required.

As indicated in the last office action and reproduced in paragraphs 1-7 of this office action, specifically the primary reference Ishii discloses a radio frequency transmission system having a transmitter (fig. 3) and receiver (figs 6,8 and 9) for transmitting and receiving FSK modulated signal, wherein the carrier frequency modulated with the binary values and shown in figure 5 have an a non zero integer number of frequency starting at zero crossing and ending at zero crossing (see for example one of the frequency in fig. 5 having two or three duty cycles and starting at zero crossing and ending at zero-crossing).

As to applicant's argument with that "RF signal and method of constructing such signal by changing the frequency of a non-zero positive integer number of complete discrete wavelets that start at zero crossing—," such a discrete waveform is not claimed, rather a continuous sequences of wavelet and shown in figure 5.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tesfaldet Bocure  
Primary Examiner  
Art Unit 2631

